

# SEQUENCE LISTING

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<120> NOVEL ANTI-IGF-IR ANTIBODIES AND USES THEREOF

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<150> FR 03/00 538

<151> 2003-07-11

<150> PCT/FR 03/00 178

<151> 2003-01-20

<150> FR 02/00 653

<151> 2002-01-18

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Ser Asp Val Leu Met Thr Gln ile Pro Leu Ser Leu Pro Val Ser Leu  
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agt aat gga aac acc tat tta caa tgg tac ctg cac aaa cca ggt cag 198  
Ser Asn Gly Asn Thr Tyr Leu Gln Trp Tyr Leu Gln Lys Pro Gly Gln  
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tct cca aag ctc ctg atc tac aaa gtt tcc aac cga ctt tat ggg gtc 246  
Ser Pro Lys Leu Leu Ile Tyr Lys Val Ser Asn Arg Leu Tyr Gly Val  
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cca gac agg ttc agt ggc agt gga tca ggg acc gat ttc aca ctc aag 294  
Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys  
75 80 85

atc agc agc glg gag gct gag gat ctg gga gtt tat tac tgc ttt caa 342  
Ile Ser Ser Val Glu Ala Glu Asp Leu Gly Val Tyr Tyr Cys Phe Gln  
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 Gly Ser His Val Pro Trp Thr Phe Gly Gly Thr Lys Leu Glu Ile  
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 Cys Arg Ser Ser Gln Ser Ile Val His Ser Asn Gly Asn Thr Tyr Leu  
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 Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile Ser Ser Val Glu Ala Glu  
                                   85                                  90                                  95  
 Asp Leu Gly Val Tyr Tyr Cys Phe Gln Gly Ser His Val Pro Trp Thr  
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cag tct ctg tct ctc acc tgc tct gtc acc ggc tac tcc atc acc ggt      147
Gln Ser Leu Ser Leu Thr Cys Ser Val Thr Gly Tyr Ser Ile Thr Gly
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ggg tat tta tgg aac tgg atc cgg cag ttt cca gga aac aaa ctg gag      195
Gly Tyr Leu Trp Asn Trp Ile Arg Gln Phe Pro Gly Asn Lys Leu Glu
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tgg atg ggc tac ata agc tac gac ggt acc aat aac tac aaa cca tct      243
Trp Met Gly Tyr Ile Ser Tyr Asp Gly Thr Asn Asn Tyr Lys Pro Ser
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Leu Lys Asp Arg Ile Ser Ile Thr Arg Asp Thr Ser Lys Asn Gln Phe
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ttc ctg aag ttg aat tct gtg act aat gaa gac aca gct aca tat tac      339
Phe Leu Lys Leu Asn Ser Val Thr Asn Glu Asp Thr Ala Thr Tyr Tyr
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tgt gca aga tac ggt agg gtc ttc ttt gac tac tgg ggc caa ggc acc      387
Cys Ala Arg Tyr Gly Arg Val Phe Phe Asp Tyr Trp Gly Gln Gly Thr
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Ser Val Thr Gly Tyr Ser Ile Thr Gly Gly Tyr Leu Trp Asn Trp Ile
      35              40              45
Arg Gln Phe Pro Gly Asn Lys Leu Glu Trp Met Gly Tyr Ile Ser Tyr
      50              55              60
Asp Gly Thr Asn Asn Tyr Lys Pro Ser Leu Lys Asp Arg Ile Ser Ile
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&lt;211&gt; 112

&lt;212&gt; PRT

&lt;213&gt; Mus musculus

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Asn Gly Asn Thr Tyr Leu Gln Trp Tyr Leu Gln Lys Pro Gly Gln Ser  
35 40 45

Pro Lys Leu Leu Ile Tyr Lys Val Ser Asn Arg Leu Tyr Gly Val Pro  
50 55 60

Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile  
65 70 75 80

Ser Ser Val Glu Ala Glu Asp Leu Gly Val Tyr Tyr Cys Phe Gln Gly  
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Ser His Val Pro Trp Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys  
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&lt;211&gt; 112

&lt;212&gt; PRT

&lt;213&gt; Mus musculus

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Pro Lys Leu Leu Ile Tyr Lys Val Ser Asn Arg Phe Ser Gly Val Pro  
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Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile  
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35 40 45

Pro Lys Leu Leu Ile Tyr Lys Val Ser Asn Arg Phe Ser Gly Val Pro  
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Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile  
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Pro Lys Leu Leu Ile Tyr Lys Val Ser Asn Arg Phe Ser Gly Val Pro  
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Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile  
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&lt;210&gt; 58

&lt;211&gt; 112

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 58

Asp Ile Val Met Thr Gln Ser Pro Leu Ser Leu Pro Val Thr Pro Gly  
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Glu Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Leu His Ser  
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Asn Gly Tyr Asn Tyr Leu Asp Trp Tyr Leu Gln Lys Pro Gly Gln Ser  
 35 40 45

Pro Gln Leu Leu Ile Tyr Leu Gly Ser Asn Arg Ala Ser Gly Val Pro  
 50 55 60

Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile  
 65 70 75 80

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Met Gln Ala  
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Leu Gln Thr Pro Gln Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys  
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&lt;210&gt; 59

&lt;211&gt; 100

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 59

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Glu Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Leu His Ser  
 20 25 30

Asn Gly Tyr Asn Tyr Leu Asp Trp Tyr Leu Gln Lys Pro Gly Gln Ser  
 35 40 45

Pro Gln Leu Leu Ile Tyr Leu Gly Ser Asn Arg Ala Ser Gly Val Pro  
50 55 60  
Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile  
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Leu Gln Thr Pro  
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Asp Gly Xaa Xaa Tyr Leu Xaa Trp Tyr Leu Gln Lys Pro Gly Gln Ser  
35 40 45  
Pro Gln Leu Leu Ile Tyr Leu Val Ser Asn Arg Ala Ser Gly Val Pro  
50 55 60  
Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile  
65 70 75 80  
Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Met Gln Ala  
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<400> 61

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Glu Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Ile Val His Ser  
20 25 30

Asn Gly Asn Thr Tyr Leu Gln Trp Tyr Leu Gln Lys Pro Gly Gln Ser  
35 40 45

Pro Gln Leu Leu Ile Tyr Lys Val Ser Asn Arg Leu Tyr Gly Val Pro  
50 55 60

Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile  
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Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Phe Gln Gly  
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Met Phe Trp Phe Pro Ala Ser Ser Ser Asp Val Val Met Thr Gln Ser  
15 20 25

cca ctc tcc ctg ccc gtc acc cct gga gag ccg gcc tcc atc tcc tgc 147  
Pro Leu Ser Leu Pro Val Thr Pro Gly Glu Pro Ala Ser Ile Ser Cys  
30 35 40

agg tct agt cag agc att gta cat agt aat gga aac acc tat ttg caa 195  
Arg Ser Ser Gln Ser Ile Val His Ser Asn Gly Asn Thr Tyr Leu Gln  
45 50 55

tgg tac ctg cag aag cca ggg cag tct cca cag ctc ctg atc tat aaa 243  
Trp Tyr Leu Gln Lys Pro Gly Gln Ser Pro Gln Leu Leu Ile Tyr Lys  
60 65 70

gtt tct aat cgg ctt tat ggg gtc cct gac agg ttc agt ggc agt gga 291  
Val Ser Asn Arg Leu Tyr Gly Val Pro Asp Arg Phe Ser Gly Ser Gly  
75 80 85 90

tca ggc aca gat ttt aca ctg aaa atc agc aga gtg gag gct gag gat 339  
Ser Gly Thr Asp Phe Thr Leu Lys Ile Ser Arg Val Glu Ala Glu Asp  
95 100 105



gtt ggg gtt tat tac tgc ttt caa ggt tca cat gtt ccg tgg acg ttc 387  
 Val Gly Val Tyr Tyr Cys Phe Gln Gly Ser His Val Pro Trp Thr Phe  
 110 115 120

ggc caa ggg acc aag gtg gaa atc aaa cgt gaggatcc tctgag 433  
 Gly Gln Gly Thr Lys Val Glu Ile Lys  
 125 130

<210> 63  
 <211> 131  
 <212> PRT  
 <213> Homo sapiens

<400> 63  
 Met Lys Leu Pro Val Arg Leu Leu Val Leu Met Phe Trp Phe Pro Ala  
 1 5 10 15  
 Ser Ser Ser Asp Val Val Met Thr Gln Ser Pro Leu Ser Leu Pro Val  
 20 25 30  
 Thr Pro Gly Glu Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Ile  
 35 40 45  
 Val His Ser Asn Gly Asn Thr Tyr Leu Gln Trp Tyr Leu Gln Lys Pro  
 50 55 60  
 Gly Gln Ser Pro Gln Leu Leu Ile Tyr Lys Val Ser Asn Arg Leu Tyr  
 65 70 75 80  
 Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr  
 85 90 95  
 Leu Lys Ile Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys  
 100 105 110  
 Phe Gln Gly Ser His Val Pro Trp Thr Phe Gly Gln Gly Thr Lys Val  
 115 120 125  
 Glu Ile Lys  
 130

<210> 64  
 <211> 433  
 <212> DNA  
 <213> Homo sapiens

<400> 64  
 cagtccttgcg caccggcgggtg gtactttcaac ggacaatccg acaaccacga ctacaagacc 60  
 aaaggacgaa ggtcgtcact acaacactac tqagtcagag gtgagaggga cgggcagtg 120  
 ggacctctcg gccggaggtg gaggacgtcc agatcagtcct cgtaacatgt atcattacct 180  
 ttgtggataa acgttaccat ggacgtcttc ggccccgtca gaggtgtcga ggactagata 240  
 tttcgaagat tagccgaagt accccaggga ctgtccaagt caccgtcacc tagtccgtgt 300  
 ctaaaatgtg acttttagtc gtctcacctc cgactcctac aaccccaaat aatgacgaaa 360  
 gttccaagtg tacaaggcac ctgcaaggccg gttccctggt tccaccttta gtttgcactc 420  
 acctaggaga cgc 433

<210> 65  
 <211> 112

<213> Homo sapiens

<400> 65

Asp Ile Val Met Thr Gln Ser Pro Leu Ser Leu Pro Val Thr Pro Gly  
1 5 10 15

Glu Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Ile Val His Ser  
20 25 30

Asn Gly Asn Thr Tyr Leu Gln Trp Tyr Leu Gln Lys Pro Gly Gln Ser  
35 40 45

Pro Gln Leu Leu Ile Tyr Lys Val Ser Asn Arg Leu Tyr Gly Val Pro  
50 55 60

Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile  
65 70 75 80

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Phe Gln Gly  
85 90 95

Ser His Val Pro Trp Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys  
100 105 110

<210> 66

<211> 433

<272> DNA

<213> Homo sapiens

<220>

<221> CDS

$\langle 222 \rangle$  (22) .. (414)

<400> 66

gtcagaacgc gtgccgccac c atg aag ttg cct gtt agg .ctg ttg gtg ctg 51  
Met Lys Leu Pro Val Arg Leu Leu Val Leu  
1 5 10

atg ttc tgg ttt cct gct lcc agc agt gat att gtc atg act cag tct 99  
Met Phe Trp Phe Pro Ala Ser Ser Ser Asp Ile Val Met Thr Gln Ser  
15 20 25

cca ctc tcc ctg ccc qtc acc cct gga gag ccg gcc tcc atc tcc tgc 147  
Pro Leu Ser Leu Pro Val Thr Pro Gly Glu Pro Ala Ser Ile Ser Cys  
30 35 40

agg tct agt gag agc att gta cat agt aat gga aac acc tat ttg caa 195  
Arg Ser Ser Gln Ser Ile Val His Ser Asn Gly Asn Thr Tyr Leu Gln  
45 50 55

tgg tac ctg cag aag cca ggg cag tct cca cag ctg ctg atc tat aaa 243  
 Trp Tyr Leu Gln Lys Pro Gly Gln Ser Pro Gln Leu Leu Ile Tyr Lys  
 60 65 70

gtt tct aat cgg ctt tat ggg gtc cct gac agg ttc agt ggc agt gga 291  
Val Ser Asn Arg Leu Tyr Gly Val Pro Asp Arg Phe Ser Gly Ser Gly  
75 80 85 90

tca ggc aca gat. ttt aca ctg aaa atc agc aga gty gag gct gag gat 339

Ser Gly Thr Asp Phe Thr Leu Lys Ile Ser Arg Val Glu Ala Glu Asp  
 95 100 105  
 gtt ggg gtt tat tac tgc ttt caa ggt tca cat gtt cag tgg acg ttc 387  
 Val Gly Val Tyr Tyr Cys Phe Gln Gly Ser His Val Pro Trp Thr Phe  
 110 115 120  
 ggc caa ggg acc aag gtg gaa atc aaa cgt gagtggatcc tctgcy 433  
 Gly Gln Gly Thr Lys Val Glu Ile Lys  
 125 130

<210> 67  
 <211> 131  
 <212> PRT  
 <213> Homo sapiens

<400> 67  
 Met Lys Leu Pro Val Arg Leu Leu Val Leu Met Phe Trp Phe Pro Ala  
 1 5 10 15  
 Ser Ser Ser Asp Ile Val Met Thr Gln Ser Pro Leu Ser Leu Pro Val  
 20 25 30  
 Thr Pro Gly Glu Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Ile  
 35 40 45  
 Val His Ser Asn Gly Asn Thr Tyr Leu Gln Trp Tyr Leu Gln Lys Pro  
 50 55 60  
 Gly Gln Ser Pro Gln Leu Leu Ile Tyr Lys Val Ser Asn Arg Leu Tyr  
 65 70 75 80  
 Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr  
 85 90 95  
 Leu Lys Ile Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys  
 100 105 110  
 Phe Gln Gly Ser His Val Pro Trp Thr Phe Gly Gln Gly Thr Lys Val  
 115 120 125  
 Glu Ile Lys  
 130

<210> 68  
 <211> 433  
 <212> DNA  
 <213> Homo sapiens

<400> 68  
 cagtcttgcg cacggcgggtg gtacttcaac ggacaatccg acaaccacga ctacaagacc 60  
 aaaggacgaa ggtcgtcact acaacactac tgagtcagag gtgagagga cgggcagrgg 120  
 ggacctctcg gccggaggta gaggaagtc agatcagtc cgtaacatgt atcattacct 180  
 ttgtggataa acgttaccat gaacgtcttc ggtcccgctca gaggtgtcga ggactagata 240  
 ttccaagat tagccgaat accccaggga ctgtccaagt caccgtcacc tagtccgtgt 300  
 ctaaaatgtg acttttagtc gtctcacctc cgactcctac aaccccaaat aatgacgaa 360  
 gllccaagtg tacaaggcac ctgcaagccg gtlccctggt tccaccttta gtttgactc 420  
 accagggaga cgc 433

<210> 69  
<211> 117  
<212> PRT  
<213> Mus musculus

<400> 69  
Asp Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Gln  
1 5 10 15  
Ser Leu Ser Leu Thr Cys Ser Val Thr Gly Tyr Ser Ile Thr Gly Gly  
20 25 30  
Tyr Leu Trp Asn Trp Ile Arg Gln Phe Pro Gly Asn Lys Leu Glu Trp  
35 40 45  
Met Gly Tyr Ile Ser Tyr Asp Gly Thr Asn Asn Tyr Lys Pro Ser Leu  
50 55 60  
Lys Asp Arg Ile Ser Ile Thr Arg Asp Thr Ser Lys Asn Gln Phe Phe  
65 70 75 80  
Leu Lys Leu Asn Ser Val Thr Asn Glu Asp Thr Ala Thr Tyr Tyr Cys  
85 90 95  
Ala Arg Tyr Gly Arg Val Phe Phe Asp Tyr Trp Gly Gln Gly Thr Thr  
100 105 110  
Leu Thr Val Ser Ser  
115

<210> 70  
<211> 118  
<212> PRT  
<213> Mus musculus

<400> 70  
Asp Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Gln  
1 5 10 15  
Ser Leu Ser Leu Thr Cys Ser Val Thr Gly Tyr Ser Ile Thr Ser Gly  
20 25 30  
Tyr Tyr Trp Asn Trp Ile Arg Gln Phe Pro Gly Asn Lys Leu Glu Trp  
35 40 45  
Met Gly Tyr Ile Asn Tyr Asp Gly Asn Asn Asn Tyr Asn Pro Ser Leu  
50 55 60  
Lys Asn Arg Ile Ser Ile Thr Arg Asp Thr Ser Lys Asn Gln Phe Phe  
65 70 75 80  
Leu Lys Leu Asn Ser Val Thr Thr Glu Asp Thr Ala Thr Tyr Tyr Cys  
85 90 95  
Ala Arg Glu Gly Tyr Gly Tyr Phe Phe Asp Tyr Trp Gly Gln Gly Thr  
100 105 110  
Thr Leu Thr Val Ser Ser

<210> 71  
 <211> 118  
 <212> PRT  
 <213> Mus musculus

<400> 71  
 Glu Val Gln Leu Gln Glu Ser Gly Pro Ser Leu Val Lys Pro Ser Gln  
 1 5 10 15  
 Thr Leu Ser Leu Thr Cys Ser Val Thr Gly Asp Ser Ile Thr Ser Gly  
 20 25 30  
 Tyr Trp Asn Asn Trp Ile Arg Gln Phe Pro Gly Asn Lys Leu Glu Trp  
 35 40 45  
 Met Gly Tyr Ile Ser Tyr Ser Gly Ser Thr Tyr Tyr Asn Pro Ser Leu  
 50 55 60  
 Lys Ser Arg Ile Ser Ile Thr Arg Asp Thr Ser Lys Asn Gln Tyr Phe  
 65 70 75 80  
 Leu Gln Leu Asn Ser Val Thr Thr Glu Asp Thr Ala Thr Tyr Tyr Cys  
 85 90 95  
 Ala Arg Gly Gly Tyr Gly Tyr Gly Phe Asp Tyr Trp Gly Gln Gly Thr  
 100 105 110  
 Thr Val Thr Val Ser Ser  
 115

<210> 72  
 <211> 117  
 <212> PRT  
 <213> Homo sapiens

<400> 72  
 Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Gln  
 1 5 10 15  
 Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Gly Ser Val Ser Ser Tyr  
 20 25 30  
 Trp Ser Trp Asn Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp  
 35 40 45  
 Ile Gly Arg Ile Tyr Tyr Ser Gly Ser Thr Xaa Tyr Asn Pro Ser Leu  
 50 55 60  
 Lys Ser Arg Val Thr Ile Ser Val Asp Thr Ser Lys Asn Gln Phe Ser  
 65 70 75 80  
 Leu Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr Cys  
 85 90 95  
 Ala Arg Glu Leu Pro Gly Gly Tyr Asp Val Trp Gly Gln Gly Thr Leu  
 100 105 110

Val Thr Val Ser Ser  
115

<210> 73  
<211> 123  
<212> PRT  
<213> Homo sapiens

<400> 73

Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Glu  
1 5 10 15  
Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Tyr Ser Ile Ser Ser Gly  
20 25 30  
Tyr Tyr Trp Ser Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp  
35 40 45  
Ile Gly Ser Met Phe His Ser Gly Ser Ser Tyr Tyr Asn Pro Ser Leu  
50 55 60  
Lys Ser Arg Val Thr Ile Ser Val Asp Thr Ser Lys Asn Gln Phe Ser  
65 70 75 80  
Leu Gln Leu Arg Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr Cys  
85 90 95  
Ala Arg Gly Arg Tyr Cys Ser Ser Thr Ser Cys Asn Trp Phe Asp Pro  
100 105 110  
Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser  
115 120

<210> 74  
<211> 98  
<212> PRT  
<213> Homo sapiens

<400> 74

Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Glu  
1 5 10 15  
Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Tyr Ser Ile Ser Ser Gly  
20 25 30  
Tyr Tyr Trp Ser Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp  
35 40 45  
Ile Gly Ser Ile Tyr His Ser Gly Ser Thr Tyr Tyr Asn Pro Ser Leu  
50 55 60  
Lys Ser Arg Val Thr Ile Ser Val Asp Thr Ser Lys Asn Gln Phe Ser  
65 70 75 80  
Leu Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr Cys  
85 90 95  
Ala Arg

<210> 75  
 <211> 117  
 <212> PRT  
 <213> Homo sapiens

<400> 75  
 Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Glu  
 1 5 10 15  
 Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Tyr Ser Ile Thr Gly Gly  
 20 25 30  
 Tyr Leu Trp Asn Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp  
 35 40 45  
 Met Gly Tyr Ile Ser Tyr Asp Gly Thr Asn Asn Tyr Lys Pro Ser Leu  
 50 55 60  
 Lys Asp Arg Ile Thr Ile Ser Arg Asp Thr Ser Lys Asn Gln Phe Ser  
 65 70 75 80  
 Leu Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr Cys  
 85 90 95  
 Ala Arg Tyr Gly Arg Val Phe Phe Asp Tyr Trp Gly Gln Gly Thr Leu  
 100 105 110  
 Val Thr Val Ser Ser  
 115

<210> 76  
 <211> 445  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> CDS  
 <222> (22)..(426)

<400> 76  
 gtcagaacgc qtgcgcgcac c atg aaa qtg ttg agt ctg ttg tac ctc ttg 51  
 Met Lys Val Leu Ser Leu Leu Tyr Leu Leu 10  
 1 5 10  
 acc gcc att cct ggt atc ctg tct cag gtg cag ctt cag gag tcg ggc 99  
 Thr Ala Ile Pro Gly Ile Leu Ser Gln Val Gln Leu Gln Glu Ser Gly 25  
 15 20 25  
 cca gga ctg gtg aag cct tgg gag acc ctg tcc ctc acc tgc act gtc 147  
 Pro Gly Leu Val Lys Pro Ser Glu Thr Leu Ser Leu Thr Cys Thr Val 40  
 30 35 40  
 tct ggt tac tcc atc acc ggt ggt tat tta tgg aac tgg ata cgg cag 195  
 Ser Gly Tyr Ser Ile Thr Gly Gly Tyr Leu Trp Asn Trp Ile Arg Gln 55  
 45 50 55  
 ccc cca ggg aag gga ctg gag tgg atg ggg tat atc agc tac gac ggt 243  
 Pro Pro Gly Lys Gly Leu Glu Trp Met Gly Tyr Ile Ser Tyr Asp Gly 70  
 60 65 70

acc aat aac tac aaa ccc tcc ctc aag gat cga atc acc atn tca cgt 291  
 Thr Asn Asn Tyr Lys Pro Ser Leu Lys Asp Arg Ile Thr ile Ser Arg  
 75 80 85 90

gac acg tcc aag aac cag ttc tcc ctg aag ctg agc tct gtg acc gct 339  
 Asp Thr Ser Lys Asn Gln Phe Ser Leu Lys Leu Ser Ser Val Thr Ala  
 95 100 105

gcg gac act gca gtg tat tac tgt gcg aga tac ggt agg gtc ttc ttt 387  
 Ala Asp Thr Ala Val Tyr Tyr Cys Ala Arg Tyr Gly Arg Val Phe Phe  
 110 115 120

gac tac tgg ggc cag gga acc ctg gtc acc gtc tcc tca ggtgagtggg 436  
 Asp Tyr Trp Gly Gln Gly Thr Val Thr Val Ser Ser  
 125 130

tcctctgcg 445

<210> 77  
 <211> 135  
 <212> PRT  
 <213> Homo sapiens

<400> 77  
 Met Lys Val Leu Ser Leu Leu Tyr Leu Leu Thr Ala Ile Pro Gly Ile  
 1 5 10 15  
 Leu Ser Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro  
 20 25 30  
 Ser Glu Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Tyr Ser Ile Thr  
 35 40 45  
 Gly Gly Tyr Leu Trp Asn Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu  
 50 55 60  
 Glu Trp Met Gly Tyr Ile Ser Tyr Asp Gly Thr Asn Asn Tyr Lys Pro  
 65 70 75 80  
 Ser Leu Lys Asp Arg Ile Thr Ile Ser Arg Asp Thr Ser Lys Asn Gln  
 85 90 95  
 Phe Ser Leu Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr  
 100 105 110  
 Tyr Cys Ala Arg Tyr Gly Arg Val Phe Phe Asp Tyr Trp Gly Gln Gly  
 115 120 125  
 Thr Leu Val Thr Val Ser Ser  
 130

<210> 78  
 <211> 445  
 <212> DNA  
 <213> Homo sapiens

<400> 78  
 cagtcttgcg caccggcgtg gtactllcag aactcagaca acatggagaa ctgtcggtaa 60



ggaccatagg acagagtcca cgtcgaagtc ctcagcccgg gtccctgacca ctccgggaagc 120  
 ctctgggaca gggagtggac gtgacagaga ccatgaggt agtggccacc aataantacc 180  
 ttgacctatg ccgtcggggg tcccttccct gacctcacct accccatata gtogatgctg 240  
 ccatgggtat tgatgttltgg gagggagttc ctacgttagl ggtatagtgc actgtgcagg 300  
 ttcttggtca agagggactt cgactcgaga cactggcgac gcctgtgacg tcnataatg 360  
 acacgctcta tgccatccca gaagaaactg atgaccccgg tcccttggga ccagtggcag 420  
 aggagtccac tcacctagga gacgc 445

<210> 79  
 <211> 117  
 <212> PRT  
 <213> Homo sapiens

<400> 79  
 Gln Val Gln Leu Gln Ser Gly Pro Gly Leu Val Lys Pro Ser Glu  
 1 5 10 15  
 Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Tyr Ser Ile Thr Gly Gly  
 20 25 30  
 Tyr Leu Trp Asn Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp  
 35 40 45  
 Ile Gly Tyr Ile Ser Tyr Asp Gly Thr Asn Asn Tyr Lys Pro Ser Leu  
 50 55 60  
 Lys Asp Arg Val Thr Ile Ser Arg Asp Thr Ser Lys Asn Gln Phe Ser  
 65 70 75 80  
 Leu Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr Cys  
 85 90 95  
 Ala Arg Tyr Gly Arg Val Phe Phe Asp Tyr Trp Gly Gln Gly Thr Leu  
 100 105 110  
 Val Thr Val Ser Ser  
 115

<210> 80  
 <211> 445  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> CDS  
 <222> (22)..(426)

<400> 80  
 gtcagaacgc gtgcagccac c atg aaa gtg ttg agt ctg ttg tac ctc ttg 51  
 Met Lys Val Leu Ser Leu Leu Tyr Leu Leu  
 1 5 10  
 aca gcc att cct ggt atc ctg tct cag gtg cag ctt cag gag tgg gcc 99  
 Thr Ala Ile Pro Gly Ile Leu Ser Gln Val Gln Leu Gln Glu Ser Gly  
 15 20 25  
 cca gga ctg gtg aag cct tgg gag acc ctg tcc ctc acc tgc act gtc 147  
 Pro Gly Leu Val Lys Pro Ser Glu Thr Leu Ser Leu Thr Cys Thr Val

30	35	40	
tct ggt tac tcc atc acc ggt ggt tat tta tgg aac tgg ata cgg cag			195
Ser Gly Tyr Ser Ile Thr Gly Gly Tyr Leu Trp Asn Trp Ile Arg Gln			
45	50	55	
ccc cca ggg aag gga ctg gag tgg atc ggg tat atc agc tac gac ggt			243
Pro Pro Gly Lys Gly Leu Glu Trp Ile Gly Tyr Ile Ser Tyr Asp Gly			
60	65	70	
acc aat aac tac aaa ccc tcc ctc aag gat cga gtc acc ata tca cgt			291
Thr Asn Asn Tyr Lys Pro Ser Leu Lys Asp Arg Val Thr Ile Ser Arg			
75	80	85	90
gac acg tcc aag aac caq ttc tcc ctg aag ctg agc tct gtg acc gct			339
Asp Thr Ser Lys Asn Gln Phe Ser Leu Lys Leu Ser Ser Val Thr Ala			
95	100	105	
gcg gac act gca gtg tat tac tgt gcg aga tac ggt agg gtc ttc ttt			387
Ala Asp Thr Ala Val Tyr Tyr Cys Ala Arg Tyr Gly Arg Val Phe Phe			
110	115	120	
gac tac tgg ggc caq gga acc ctg gtc acc gtc tcc tca ggtgagtga			436
Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser			
125	130		
tcctctgcg			445

<210> 81  
<211> 135  
<212> PRT  
<213> Homo sapiens

<400> 81  
Met Lys Val Leu Ser Leu Leu Tyr Leu Leu Thr Ala Ile Pro Gly Ile  
1 5 10 15  
Leu Ser Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro  
20 25 30  
Ser Glu Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Tyr Ser Ile Thr  
35 40 45  
Gly Gly Tyr Leu Trp Asn Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu  
50 55 60  
Glu Trp Ile Gly Tyr Ile Ser Tyr Asp Gly Thr Asn Asn Tyr Lys Pro  
65 70 75 80  
Ser Leu Lys Asp Arg Val Thr Ile Ser Arg Asp Thr Ser Lys Asn Gln  
85 90 95  
Phe Ser Leu Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr  
100 105 110  
Tyr Cys Ala Arg Tyr Gly Arg Val Phe Phe Asp Tyr Trp Gly Gln Gly  
115 120 125  
Thr Leu Val Thr Val Ser Ser  
130

<210> 82  
 <211> 445  
 <212> DNA  
 <213> Homo sapiens

<400> 82  
 caqtcttgcg caccggcggg gtactttcac aactcagaca acatggagaa ctgtcggtaa 60  
 qqaccataag acagagtcac cgtcgaagtc ctcagcccggt gtcttgacca ctccggaagc 120  
 ctctgggaca qqqaqtggac gtgacagaga ccaatgaggt agtcgccacc aataaatacc 180  
 ttgacctatg ccgtcqqqqq tcccttcccl gacctcacct agcccatata gtcgatgctg 240  
 ccattggtat tgatgttttg qaqqqaqtte ctagclcagt ggtatagtgc actgtgcagg 300  
 ttcttggtca agagggactt cgactcgaga cactggcgac gctgtgagc tcacataatg 360  
 acacgtctta tgccatccca gaagaaactg atgaccccggt tcccttgga ccagtggcag 420  
 aqgagtcac tcacctagga gacgc 445

<210> 83  
 <211> 117  
 <212> PRT  
 <213> Homo sapiens

<400> 83  
 Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Glu  
 1 5 10 15  
 Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Tyr Ser Ile Ser Gly Gly  
 20 25 30  
 Tyr Leu Trp Asn Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp  
 35 40 45  
 Ile Gly Tyr Ile Ser Tyr Asp Gly Thr Asn Asn Tyr Lys Pro Ser Leu  
 50 55 60  
 Lys Asp Arg Val Thr Ile Ser Val Asp Thr Ser Lys Asn Gln Phe Ser  
 65 70 75 80  
 Leu Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr Cys  
 85 90 95  
 Ala Arg Tyr Gly Arg Val Phe Phe Asp Tyr Trp Gly Gln Gly Thr Leu  
 100 105 110  
 Val Thr Val Ser Ser  
 115

<210> 84  
 <211> 445  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> CDS  
 <222> (22)..(426)

<400> 84  
 gtcagaacgc glgcggccac c atg aaa gtg ttg agt ctg ttg tac ctc ttg 51  
 Met Lys Val Leu Ser Leu Leu Tyr Leu Leu

	1	5	10	
aca gcc att cct ggt atc ctg tct cag gtg cag ctt cag gag tcg ggc				99
Thr Ala Ile Pro Gly Ile Leu Ser Gln Val Gln Leu Gln Glu Ser Gly	15	20	25	
cca gga ctg glg aag cct tcg gag acc ctg tcc ctc acc tgc act gtc				147
Pro Gly Leu Val Lys Pro Ser Glu Thr Leu Ser Leu Thr Cys Thr Val	30	35	40	
tct ggt tac tcc atc agc ggt qgt tat tta tgg aac tgg ata cgg cag				195
Ser Gly Tyr Ser Ile Ser Gly Gly Tyr Leu Trp Asn Trp Ile Arg Gln	45	50	55	
ccc cca qgg aag gga ctg gag tgg atc ggg tat atc agc tac gac ggt				243
Pro Pro Gly Lys Gly Leu Glu Trp Ile Gly Tyr Ile Ser Tyr Asp Gly	60	65	70	
acc aat aac tac aaa ccc tcc ctc aag gat cga gtc acc ata tca ctg				291
Thr Asn Asn Tyr Lys Pro Ser Leu Lys Asp Arg Val Thr Ile Ser Val	75	80	85	90
gac acg tcc aag aac cag ttc tcc ctg aag ctg agc tct gtg acc gct				339
Asp Thr Ser Lys Asn Gln Phe Ser Leu Lys Leu Ser Ser Val Thr Ala	95	100	105	
gcg gac act gca gtg tat tac tgl gcg aga tac ggt agg gtc ttc ttt				387
Ala Asp Thr Ala Val Tyr Tyr Cys Ala Arg Tyr Gly Arg Val Phe Phe	110	115	120	
gac tac tgg ggc cag gga acc ctg gtc acc gtc tcc tca ggtgagtgga				436
Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser	125	130		
tcctctgcg				445
<210> 85				
<211> 135				
<212> PRT				
<213> Homo sapiens				
<400> 85				
Met Lys Val Leu Ser Leu Leu Tyr Leu Leu Thr Ala Ile Pro Gly Ile	1	5	10	15
Leu Ser Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro	20	25	30	
Ser Glu Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Tyr Ser Ile Ser	35	40	45	
Gly Gly Tyr Leu Trp Asn Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu	50	55	60	
Glu Trp Ile Gly Tyr Ile Ser Tyr Asp Gly Thr Asn Asn Tyr Lys Pro	65	70	75	80
Ser Leu Lys Asp Arg Val Thr Ile Ser Val Asp Thr Ser Lys Asn Gln	85	90	95	

Phe Ser Leu Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr  
100 105 110

Tyr Cys Ala Arg Tyr Gly Arg Val Phe Phe Asp Tyr Trp Gly Gln Gly  
115 120 125

Thr Leu Val Thr Val Ser Ser  
130

<210> 86  
<211> 445  
<212> DNA  
<213> Homo sapiens

<400> 86  
cagtccttgcg cagggcggtg gtactttcac aactcagaca acatggagaa ctgtcggtaa 60  
ggaccatagg acagagtgcca cgtcgaagtc ctacagccgg gtcttgacca cttcggaagc 120  
ctctgggaca gggagtggac gtgacagaga ccaatgaggt agtcgccacc aataaatacc 180  
ttgacctatg ccgtcggggg tcccttcctt gacctcacct agcccatata gtcgatgctg 240  
ccaatgggtat tgatgtttgg gagggagtgc ctagctcagt ggtatagtca cctgtgcagg 300  
ttcttggtca agagggactt cgactcgaga cactggcgac gctgtgacg tcacataatg 360  
acacgtcta tgccatccca gaagaaactg atgaccccg tcccttggga ccagtggcag 420  
aggagtccac tcacctagga gacgc 445

<210> 87  
<211> 18  
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<220>  
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Oligonucleotide

<400> 87  
gtcagaacgc gtgccgcc

19

<210> 88  
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<220>  
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Oligonucleotide

<400> 88  
accatgaagt tgctgttag gctgtggtg ct

32

<210> 89  
<211> 32  
<212> DNA  
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<220>  
<223> Description of artificial sequence:  
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<400> 89  
gatgttclgg tttcctgctt ccagcagtgga tg

32

<210> 90  
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<220>  
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Oligonucleotide

<400> 90  
ttgtgatgac tcagtctcca ctctccctgc cc

32

<210> 91  
<211> 32  
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<220>  
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Oligonucleotide

<400> 91  
gtcaccctg gagagccggc ctccatctcc tg

32

<210> 92  
<211> 32  
<212> DNA  
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<220>  
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Oligonucleotide

<400> 92  
caqgtctagt cagaccatta tacataglaa tg

32

<210> 93  
<211> 30  
<212> DNA  
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<223> Description of artificial sequence:  
Oligonucleotide

<400> 93  
gaaacaccta tttggaatgg tacctgcaga

30

<210> 94  
<211> 32  
<212> DNA  
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<223> Description of artificial sequence:  
Oligonucleotide

<400> 94

ggcaacttca tgggtggcggc acgcgttctg ac

32

<210> 95

<211> 32

<212> DNA

<213> Artificial sequence

<220>

<223> Description of artificial sequence:  
Oligonucleotide

<400> 95

gaaaccagaa catcagcacc aacagcctaa ca

32

<210> 96

<211> 32

<212> DNA

<213> Artificial sequence

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<223> Description of artificial sequence:  
Oligonucleotide

<400> 96

ctgagtcac acaacatcac tgctggagc ag

32

<210> 97

<211> 32

<212> DNA

<213> Artificial sequence

<220>

<223> Description of artificial sequence:  
Oligonucleotide

<400> 97

tctccagggg tgacgggcag ggagagtgga ga

32

<210> 98

<211> 32

<212> DNA

<213> Artificial sequence

<220>

<223> Description of artificial sequence:  
Oligonucleotide

<400> 98

tctgactaga cctgcaggag atggaggccg gc

32

<210> 99

<211> 31  
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<220>  
<223> Description of artificial sequence:  
Oligonucleotide

<400> 99  
aaataqqtgt ttccattact atgtacaatg c

31

<210> 100  
<211> 32  
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<220>  
<223> Description of artificial sequence:  
Oligonucleotide

<400> 100  
cagggcagtc tccacagctc ctgatctata aa

32

<210> 101  
<211> 32  
<212> DNA  
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<220>  
<223> Description of artificial sequence:  
Oligonucleotide

<400> 101  
gttttctaate ggctttatgg ggtccctgac ag

32

<210> 102  
<211> 32  
<212> DNA  
<213> Artificial sequence

<220>  
<223> Description of artificial sequence:  
Oligonucleotide

<400> 102  
gttcagtggc agtggatcag gcacagattt ta

32

<210> 103  
<211> 32  
<212> DNA  
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<220>  
<223> Description of artificial sequence:  
Oligonucleotide

<400> 103



cactgaaaat cagcagagtg gaggcagagg at

32

<210> 104

<211> 32

<212> DNA

<213> Artificial sequence

<220>

<223> Description of artificial sequence:  
Oligonucleotide

<400> 104

gttgggggttt attactgctt tcaagggttca ca

32

<210> 105

<211> 32

<212> DNA

<213> Artificial sequence

<220>

<223> Description of artificial sequence:  
Oligonucleotide

<400> 105

tgttccgttg acgttcggcc aagggaccaa gg

32

<210> 106

<211> 30

<212> DNA

<213> Artificial sequence

<220>

<223> Description of artificial sequence:  
Oligonucleotide

<400> 106

tggaatcaa acgtgaqtgg atcctctgcg

30

<210> 107

<211> 17

<212> DNA

<213> Artificial sequence

<220>

<223> Description of artificial sequence:  
Oligonucleotide

<400> 107

tctgcaggta ccattgc

17

<210> 108

<211> 21

<212> DNA

<213> Artificial sequence

<220>

<223> Description of artificial sequence:  
Oligonucleotide

<400> 108  
tgcaatggta cctgcagaag c

21

<210> 109  
<211> 32  
<212> DNA  
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<220>  
<223> Description of artificial sequence:  
Oligonucleotide

<400> 109  
agactgccct ggcttctgca ggtaccattg ca

32

<210> 110  
<211> 32  
<212> DNA  
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<220>  
<223> Description of artificial sequence:  
Oligonucleotide

<400> 110  
cgattagaaa ctttatagat caggagctgt gg

32

<210> 111  
<211> 32  
<212> DNA  
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<220>  
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Oligonucleotide

<400> 111  
tggcactgaa cctgtcaggg accccataaa gc

32

<210> 112  
<211> 32  
<212> DNA  
<213> Artificial sequence

<220>  
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Oligonucleotide

<400> 112  
gattttcagl gtaaaatctg tgccatgatcc ac

32

<210> 113  
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<212> DNA  
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<220>  
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Oligonucleotide

<400> 113  
taaaccacaa catcctcagc ctccactctg ct . 32

<210> 114  
<211> 32  
<212> DNA  
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<220>  
<223> Description of artificial sequence:  
Oligonucleotide

<400> 114  
tccacqgaac atgtgaacct tgaaagcagt aa 32

<210> 115  
<211> 31  
<212> DNA  
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<220>  
<223> Description of artificial sequence:  
Oligonucleotide

<400> 115  
tttgatttcc accttqgtcc cttggccgaa c- 31

<210> 116  
<211> 19  
<212> DNA  
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<220>  
<223> Description of artificial sequence:  
Oligonucleotide

<400> 116  
cgcaqaggat ccactcacg 19

<210> 117  
<211> 18  
<212> DNA  
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<220>  
<223> Description of artificial sequence:  
Oligonucleotide

<400> 117  
gtcagaacgc gtgccgcc 18

<210> 118  
<211> 34  
<212> DNA  
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<220>  
<223> Description of artificial sequence:  
Oligonucleotide

<400> 118  
accatgaaag tgttgagtct gttgtacctc ttga

34

<210> 119  
<211> 34  
<212> DNA  
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<220>  
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Oligonucleotide

<400> 119  
cagccattcc tggatccctg tctcagglgc agct

34

<210> 120  
<211> 34  
<212> DNA  
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<220>  
<223> Description of artificial sequence:  
Oligonucleotide

<400> 120  
tcaggagtcg ggcaccaggac tggtaagcc ttcg

34

<210> 121  
<211> 33  
<212> DNA  
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<220>  
<223> Description of artificial sequence:  
Oligonucleotide

<400> 121  
gagaccctgt ccttcacctg cactgtctct ggt

33

<210> 122  
<211> 33  
<212> DNA  
<213> Artificial sequence

<220>  
<223> Description of artificial sequence:

Oligonucleotide

<400> 122

lactccatca ccggtggtta tttatggaac tgg

33

<210> 123

<211> 33

<212> DNA

<213> Artificial sequence

<220>

<223> Description of artificial sequence:  
Oligonucleotide

<400> 123

atacggcagc cccagggaa gggactggag tgg

33

<210> 124

<211> 33

<212> DNA

<213> Artificial sequence

<220>

<223> Description of artificial sequence:  
Oligonucleotide

<400> 124

atggggtata tcagctacga cggtagcatt aac

33

<210> 125

<211> 34

<212> DNA

<213> Artificial sequence

<220>

<223> Description of artificial sequence:  
Oligonucleotide

<400> 125

tcaacacttt catggtggcg gcaaggcttc tgac

34

<210> 126

<211> 34

<212> DNA

<213> Artificial sequence

<220>

<223> Description of artificial sequence:  
Oligonucleotide

<400> 126

ataccagcaa tggctgtcaa gaggtacaac agac

34

<210> 127

<211> 34

<212> DNA

<213> Artificial sequence

<220>

<223> Description of artificial sequence:  
Oligonucleotide

<400> 127

tgggcccgac tcctgaaqct gcacctgaga cagg

34

<210> 128

<211> 34

<212> DNA

<213> Artificial sequence

<220>

<223> Description of artificial sequence:  
Oligonucleotide

<400> 128

tgagggacag ggtctccgaa ggcttcacca gtcc

34

<210> 129

<211> 34

<212> DNA

<213> Artificial sequence

<220>

<223> Description of artificial sequence:  
Oligonucleotide

<400> 129

ccaccggtga tggagtaacc agagacagtg cagg

34

<210> 130

<211> 34

<212> DNA

<213> Artificial sequence

<220>

<223> Description of artificial sequence:  
Oligonucleotide

<400> 130

ccctgggggc tgcagtatcc agttocataa ataa

34

<210> 131

<211> 32

<212> DNA

<213> Artificial sequence

<220>

<223> Description of artificial sequence:  
Oligonucleotide

<400> 131

tagctgatat accccatcca ctccagtcac tl

32

<210> 132  
<211> 16  
<212> DNA  
<213> Artificial sequence

<220>  
<223> Description of artificial sequence:  
Oligonucleotide

<400> 132  
gttattggta ccgtcg

16

<210> 133  
<211> 21  
<212> DNA  
<213> Artificial sequence

<220>  
<223> Description of artificial sequence:  
Oligonucleotide

<400> 133  
tacgacggta ccaataacta c

21

<210> 134  
<211> 32  
<212> DNA  
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<220>  
<223> Description of artificial sequence:  
Oligonucleotide

<400> 134  
aaacctccc tcaaggatcg atcaccata tc

32

<210> 135  
<211> 32  
<212> DNA  
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<220>  
<223> Description of artificial sequence:  
Oligonucleotide

<400> 135  
acgtgacacg tccaagaacc agttctccct ga

32

<210> 136  
<211> 32  
<212> DNA  
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<220>  
<223> Description of artificial sequence:  
Oligonucleotide

<400> 136  
agctgagctc tgtgaccgct gcggacactg ca

32

<210> 137  
<211> 32  
<212> DNA  
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<220>  
<223> Description of artificial sequence:  
Oligonucleotide

<400> 137  
gtgtattact gtgcgagata cggtagggtc tt

32

<210> 138  
<211> 32  
<212> DNA  
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<220>  
<223> Description of artificial sequence:  
Oligonucleotide

<400> 138  
ctltgactac tggggccagc gaaccctggt ca

32

<210> 139  
<211> 30  
<212> DNA  
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<220>  
<223> Description of artificial sequence:  
Oligonucleotide

<400> 139  
ccgtctcttc aggtgagtg atcctctgcg

30

<210> 140  
<211> 32  
<212> DNA  
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<220>  
<223> Description of artificial sequence:  
Oligonucleotide

<400> 140  
agggagggtt tgtagttatt ggtaccgtcg ta

32

<210> 141  
<211> 32  
<212> DNA  
<213> Artificial sequence



<220>

<223> Description of artificial sequence:  
Oligonucleotide

<400> 141

acgtgtcacg tgatatggg attcgatcct tg

32

<210> 142

<211> 32

<212> DNA

<213> Artificial sequence

<220>

<223> Description of artificial sequence:  
Oligonucleotide

<400> 142

aaagctcagc ttcagggaga actggttctt gg

32

<210> 143

<211> 32

<212> DNA

<213> Artificial sequence

<220>

<223> Description of artificial sequence:  
Oligonucleotide

<400> 143

cagtaataca ctgcagtgtc cgcagcggtc ac

32

<210> 144

<211> 32

<212> DNA

<213> Artificial sequence

<220>

<223> Description of artificial sequence:  
Oligonucleotide

<400> 144

agttagtcaaa gaagacccta ccgtatctcg ca

32

<210> 145

<211> 33

<212> DNA

<213> Artificial sequence

<220>

<223> Description of artificial sequence:  
Oligonucleotide

<400> 145

ctgagcagac gglgaccagg gttccctggc ccc

33

<210> 146  
<211> 18  
<212> DNA  
<213> Artificial sequence

<220>  
<223> Description of artificial sequence:  
Oligonucleotide

<400> 146  
cgcagaggat ccactcac 18

<210> 147  
<211> 31  
<212> DNA  
<213> Homo sapiens

<400> 147  
ctgggtactc catcagcggg ggttatttat g 31

<210> 148  
<211> 31  
<212> DNA  
<213> Homo sapiens

<400> 148  
cataaataac caccggtgat ggagtaacca g 31

<210> 149  
<211> 31  
<212> DNA  
<213> Homo sapiens

<400> 149  
qqqactggag tggatcgggt atatcagcta c 31

<210> 150  
<211> 31  
<212> DNA  
<213> Homo sapiens

<400> 150  
gtagctgata taccgatcc actccagtc c 31

<210> 151  
<211> 31  
<212> DNA  
<213> Homo sapiens

<400> 151  
tccclcaagg atcgagtcac catatcacgt g 31

<210> 152  
<211> 31  
<212> DNA

<213> Homo sapiens

<400> 152

cacgtgatat ggtgactcga tccttgaggg a

31

<210> 153

<211> 39

<212> DNA

<213> Homo sapiens

<400> 153

gacgagtcga ccatatcaat ggacacgtcc aagaaccag

39

<210> 154

<211> 39

<212> DNA

<213> Homo sapiens

<400> 154

ctgggtctctg gacgtgtcca ctgatatggt gactcgatc

39

<210> 155

<211> 31

<212> DNA

<213> Homo sapiens

<400> 155

gcttccagca gtgatatgtg gatgactcag t

31

<210> 156

<211> 31

<212> DNA

<213> Homo sapiens

<400> 156

actgagtcac cacaatatca ctgctggaag c

31